

STUDIES ON THE GENUS *APHODIUS* OF THE UNITED STATES AND CANADA (COLEOPTERA: SCARABAEIDAE). VIII. A NEW SPECIES FROM NORTHEASTERN NORTH AMERICA

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Abstract.—A new species of dung feeding Scarabaeidae, *Aphodius aenictus*, is described from southeastern Canada and northeastern United States. It is integrated into the existing key to eastern species of *Aphodius*, and pertinent diagnostic characters are illustrated.

We here describe an *Aphodius* species, not included in the key to the eastern North American fauna (Gordon, 1983), to make the name available for inclusion in the Scarabaeidae part (Cooper, in press) of the identification manual of Canadian insects and arachnids.

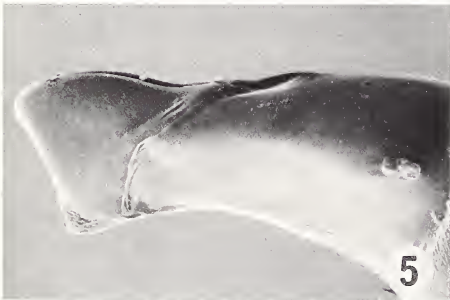
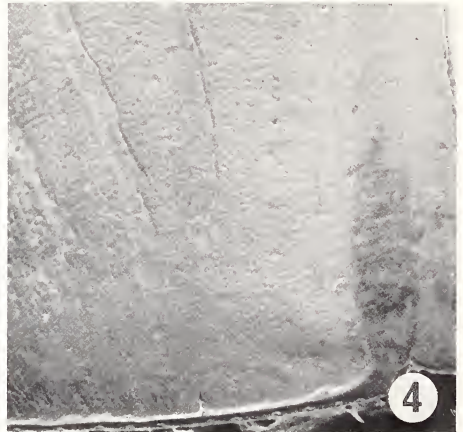
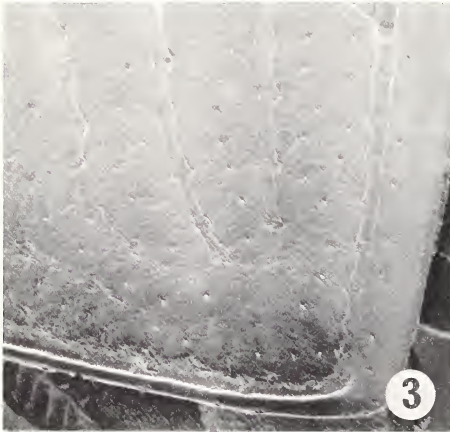
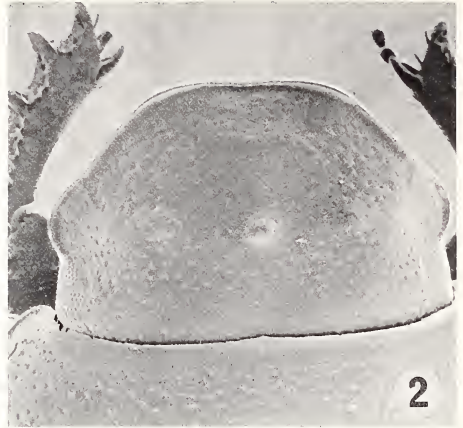
Type specimens are deposited in the following collections (acronyms are those used in the text): Canadian National Collection, Ottawa, Ontario (CNC); Henry Howden, Carleton University, Ottawa, Ontario (HH); and U.S. National Museum, Washington, D.C. (USNM).

The key to species in Gordon (1983) is modified to include the new addition as follows.

- 52. Clypeal apex almost semicircular; elytron usually mostly red except sutural margin and lateral 1/3 obscurely or distinctly darkened, red area often variably reduced *vittatus* Say
Clypeal apex emarginate; elytron black, usually with dark red or reddish brown areas, at least on apical declivity 56
- 56. Clypeal apex distinctly emarginate in dorsal view (fig. 1); frons lacking median tubercle (fig. 1); elytron with each interval distinctly, finely punctate even on apical declivity (fig. 3); metasternum finely punctate, with row of much coarser punctures on each side converging posteriorly; male fore tibial spur stout, about 0.3 times as long as tibia; minor spur of mid tibia apically truncate; genitalia as in fig. 5 *aenictus*, new species
Clypeal apex very feebly emarginate in dorsal view (fig. 2); head with median tubercle feebly or moderately developed in male (fig. 2), barely evident or lacking in female; elytron with punctures on each interval scarcely if at all discernible on apical declivity (fig. 4); metasternum with mixture of fine and small punctures; male fore tibial spur slender, about 0.25 as long as tibia; minor spur of mid tibia apically pointed; genitalia as in fig. 6 *borealis* Gyllenhal

Aphodius aenictus, new species

Description. Male, length 4.9 mm, greatest width 2.0 mm. Form elongate, elytra nearly parallel sided. Color black except narrow clypeal apex, small area on antero-



lateral angle of pronotum, apical $\frac{1}{2}$ of elytron, leg dark reddish brown. Clypeus (Fig. 1) distinctly emarginate apically, surface alutaceous, slightly rugose, with extremely fine punctation, with median, transverse swollen area. Frons (Fig. 1) lacking tubercles; surface shiny, with fine punctures separated by less than to twice a diameter. Eye small, approximately 0.1 width of interocular space. Pronotum convex, not explanate;

surface with intermixed fine, coarse punctures, with narrow, median longitudinal area impunctate; lateral margin slightly arcuate; hind angle not abrupt, approximately 45 degrees; base with distinct marginal bead. Elytron slightly alutaceous except apical declivity strongly alutaceous (Fig. 3); stria distinctly impressed, stria punctures fine, separated by about 3 times a diameter; interval feebly convex, with fine punctures discernable throughout, separated by 1 to 4 times a diameter. Epipleuron with short setae visible from above only in humeral region. Mesosternum not carinate between coxae. Metasternum finely punctate, with row of larger punctures on each side of middle converging posteriorly. Fore tibia tridentate; tibial spur 0.3 as long as tibia, broad, abruptly curved downward at apex. Apices of mid and hind tibiae fringed with short setae of nearly equal length; minor spur of mid tibia 0.4–0.5 as long as major spur, nearly straight, truncate at apex. Hind femur about 0.5 times as long as wide, with fine punctures separated by 1 to 3 times a diameter; hind tarsus as long as tibia, 1st tarsal segment as long as next 3 segments combined. Genitalia as in Figure 5. *Female*: similar to male except fore tibial spur about 0.25 as long as tibia, apex pointed, not abruptly bent downward; minor spur of mid tibia about 0.5 times as long as major spur, curved slightly outward to pointed apex. *Variation*: length 3.8 to 5.0 mm, width 1.8 to 2.4 mm; apical reddish brown area of elytron may extend along the lateral margin to midpoint, or be reduced to a small red spot at apical $\frac{2}{3}$, or be lacking altogether.

Type specimens. Male holotype, Ontario, Alfred, 10.V.1981, S. Peck R. Anderson, spruce sphagnum bog, moose droppings and predator scats (HH). Allotype (HH), and 14 paratypes, same data as holotype. Paratypes: 2, same data as holotype except date 2.V.1980, S. Peck, moose dung; 3, Pennsylvania, Bear Meadow, 4-29-48, Ford; 2, Pennsylvania, Petersburg, 4-17-48, Ford; 1, Quebec, Kazabazua, July 15, 1967, J. M. Campbell; 1, Quebec, Roberval, May 25, 1939, S. Dumont. (CNC) (HH) (USNM).

Remarks. The affinities of *A. aenictus* are with *A. borealis* Gyllenhal, *A. tenellus* Say, and *A. pectoralis* LeConte. The latter species is known only from the Nearctic Region while the other 2 have holarctic distributions. *Aphodius pectoralis* is not included in the modified key because it is a far western species, not a member of the eastern fauna. All 4 species are apparently generalists on surface dung but more or less restricted to forested areas, which means that only the dung of forest dwelling mammals such as deer, moose, and predators can be utilized. The specimens of *A. aenictus* from Alfred, Ontario, were collected from moose dung and "predator scats" in a sphagnum bog; the Pennsylvania specimens may or may not have been taken from a similar habitat, but it is unlikely that the species is restricted to bogs.

Etymology. The specific epithet is derived from the Latin *aenigma*, referring to the long undetected presence of this species in North America.

LITERATURE CITED

- Gordon, R. D. 1983. Studies on the genus *Aphodius* of the United States and Canada (Coleoptera: Scarabaeidae). VII. Food and habitat; distribution; key to eastern species. Proc. Entomol. Soc. Washington 85:633–652.

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